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ABSTRACT

This preliminary report describes an ongoing investigation begun in September 1970 of how Anglophone children with language-learning disabilities fare in French immersion programs. Their progress has been followed from Kindergarten to Grade 3, with positive preliminary results. The children have learned to read in both English and French; their school achievement is adequate; and they can understand as well as communicate in their second language with some facility. Furthermore, their first language acquisition does not appear to have been retarded by this educational experience. This report is considered preliminary due to the small number of children studied. But it is hoped that in several years the size of the experimental group will have increased enough to warrant drawing more general conclusions than is presently possible. (Author/AM)

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The effects of French Immersion Programs on Children with Language Disabilities - A Preliminary Report [1]

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ABSTRACT

The progress of children with language learning disabilities in French Immersion has been followed from Kindergarten to Grade 3. Preliminary results indicate that the children fare well. They have learned to read in both English and French. Their school achievement is adequate. They can understand as well as communicate in their second language with some facility. Furthermore their first language acquisition does not appear to have been retarded by this educational experience.

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This Preliminary report describes an ongoing investigation begun in September 1970 of how Anglophone children with language-learning disabilities fare in French immersion programs. This is a preliminary report because the number of children currently being studied is small. However, we hope that in several years the sample size will be sufficiently large to warrant the drawing of more general conclusions than is presently possible.

Nine years ago, the South Shore Protestant Regional School Board began an experimental French-English bilingual program which involved teaching children from English-speaking backgrounds basic subjects such as arithmetic, reading and writing via French their second language. Many similar programs have since been initiated in the English schools in the Montreal area. Longitudinal studies carefully evaluating the progress of children who have participated in this experiment indicate that the innovative program has not detrimentally affected the academic development of these children and has resulted in their acquiring greater proficiency in French than students who follow typical French as a second language programs. (cf. Lambert & Tucker, 1972).

The results of past evaluations have been presented and discussed in terms of group averages. There still exists a great

deal of concern for the progress of the individual child - particularly the child who seems to be slow learning to read, write and speak his native language. There exists a controversy among educators whether Anglophone children with language learning problems should participate in these immersion programs. One group of educators advocates removing a child with slow language development from the immersion class and placing him in the conventional English classroom. Their suggestion is based on the notion that the child's problems will be compounded by his participation in a French immersion class.

A second group of educators advocates leaving the child in the immersion class. Their suggestion is based on the assumption that the child who encounters problems in the French immersion class would encounter similar problems in an English classroom and thus would derive no benefit from switching classes. They claim that practice in using two language systems will not retard and may, in fact, aid the child in acquiring basic language skills. This hypothesis remains to be tested empirically. Of special importance, in the present situation, is the fact that knowledge of French is economically and socially necessary in Quebec. Removing "slow" children from immersion classes is thus seen as politically and

socially harmful for that individual as his chances for learning French in the conventional English classroom are poor.

Unfortunately the controversy remains unresolved because there is little evidence to show how Anglophone children with language difficulties actually fare in French immersion classrooms. The present study was designed to obtain information about this important problem. Its basic aim is to follow carefully the progress of Anglophone children with diagnosed language difficulties and to compare their progress with that of children who have similar problems but attend English classes. The progress of these children is to be annually assessed from Kindergarten until Grade 3. In the present report, the results obtained from a small group of children whose progress has been followed from Kindergarten to Grade 3 will be discussed.

Description of the Immersion Program

During Kindergarten, the children attend school for half a day. All communication from the teacher to the student is in French. The children are not forced to speak French and until the end of their first year most of them continue to speak English. In Grade 1, the children (ideally) follow an all-French curriculum

which is similar to the one followed by French Canadian and European French youngsters. During this year, the children learn to read and write French. French is used as the medium of instruction for all subjects. In Grade 2, two periods of English Language Arts are introduced and the children are taught to read English. From Grade 2 on, more and more English is introduced into the curriculum until by Grade 5, approximately 50% of the curriculum is taught in English and 50% in French. After the Kindergarten year, the children are actively encouraged to use only French (in the French periods) and in fact certain schools discourage the use of English by a demerit point system.

The teachers are Francophone. Texts are in French written for French-speaking children of the same age. (For a more detailed description of the program and the progress of the children from K-6, see Lambert & Tucker 1972; Lambert, Tucker & d'Anglejan, 1973; Bruck, Lambert & Tucker, in press.)

Presently, in most areas of Montreal parents have the choice of sending their children either to immersion or to conventional English Kindergartens. They are also allowed to switch their children from an immersion to an all-English classroom during any point in their child's education.

The present research was carried out in schools under the jurisdiction of the South Shore Protestant Regional School Board. All schools housing immersion classes were used and as many English schools as needed were used.

Experimental Design

The following description is the basic procedure to be followed throughout this long-term project. In order to assess the progress of Anglophone children with language problems in French immersion programs, four groups of children from English-speaking homes must be identified at the beginning of Kindergarten.

1. Children with language difficulties in French immersion classes (French Problems - FP)

2. Children with language difficulties in English classes (English Problems - EP). A comparison of this group's progress with that of the French Problem group indicates the specific effects of French immersion education on children with language difficulties.

3. A group of children with normal language development in French immersion classes (French Controls - FC). The performance of this group provides a basis by which to evaluate the differential effects of French immersion education on children with language difficulties and children with normal language development.

4) A group of children with normal language development in traditional English classes (English Controls - EC). When this group's progress is compared to that of the English Problem group the results indicate how children with language difficulties are doing in regular English classes. Discrepancies between normal and problem children's performance in English classes must be compared to discrepancies between normal and problem children's performance in immersion programs.

When the English control group's progress is compared to that of the French control group's the results indicate the effects of immersion programs on children with normal language development. Any discrepancy that occurs between the two normal groups must be taken into account when the two problem groups are compared.

After these children have been identified in October of their Kindergarten year, their progress is to be assessed in a number of areas: native language development, cognitive development, school achievement, and second language skills (only for the French control and problem groups). Teachers' reports of the individual students will also be available. This annual evaluation is to occur in January of each school year from the middle of Kindergarten until Grade 3.

By the end of the project we hope to have followed the progress of 30 children in each of the four groups. We also hope to have developed a battery of tests which are appropriate for assessing the French language skills of Anglophone children in immersion classes.

The present report presents the results obtained from a small group of children whose progress we have followed from Kindergarten to Grade 3.

METHOD

Identification and Classification of Kindergarten Children

Identification of children with language-learning disabilities was carried out by means of a screening test battery (see Appendix 1). Kindergarten classes were visited in October and when time permitted each child in the class was given the diagnostic screening test which consists of an object manipulation test, a story retelling test, a sentence imitation test, and an echolalia test. The test takes approximately 15 minutes to administer to each child. When time was more limited only those children suspected by their teachers of having some type of problem were tested. These children were selected as subjects on the basis of their performance

on this test. Table 1 presents the children's scores on the diagnostic screening test.

When the French problem and English problem children were identified, appropriate control children were selected. We attempted to match each problem child with a control child on the basis of sex, age in months, class teacher, and location of home (a rough measure of socioeconomic status). As of October 1972, all control children were also given the screening battery. As can be seen from Table 1, this battery did not pose any difficulty to the control children:

Table 1

Performance of 4 groups on Kindergarten screening battery

Group	Number correct items (maximum score = 59)
FP	34
EP	31
FC	54
EC	56

Table 2 shows the number of Kindergarten children screened and tested each year since the project began. Tables 3-5 show the number of these children that have been retested in Grades 1, 2, and 3 respectively.

Table 2

Kindergarten Screening and Testing

Group	Year			Total
	1971	1972	1973	
FP	7	3	6	16
FC	7	4	6	17
EP	7	2	6	15
EC	7	-	6	13

Table 3
Grade 1 Testing

Group	Year			Total
	1972	1973	1974	
FP	3	3	3	9
FC	6	4	6	16
EP	2	2	5	9
EC	6	-	3	9

Table 4
Grade 2 Testing

Group	Year		Total
	1973	1974	
FP	4	2	6
FC	6	4	10
EP	2	1	3
EC	6	-	6

Table 5
Grade 3 Testing

Group	Year
	1974
FP	3
FC	4
EP	2
EC	6

If during the study a child failed a grade or was placed in a special class he was still retested so long as he did not switch his language of instruction. Thus if a child started out in French immersion Kindergarten but in Grade 1 went into an English class, he was dropped from the study. However, if he were to repeat Kindergarten in French immersion he would remain in the study. In the latter case (i.e. when a child repeated a grade) the second set of test scores for that level were used.

As can be seen from Tables 2-5, our main problem has been that of attrition. There are several factors involved. First, the English groups may be vulnerable to subject loss as parents who do not plan to stay in Quebec for very long may intentionally place their children in English classes as they do not feel their children will require French in the future. This may account for the large drop-out rate in the English groups as many children move out of the province after Kindergarten. In the case of the French immersion children, we see the lack of remedial services as a key factor. Children in need of help must be transferred to the English stream for remediation. For example, in 1974 three of the French problem children were dropped from the study as they went from a French immersion Kindergarten into an English readiness class (no French

readiness class was available). A second factor involves the fact that many children who move out of the area, move to places where no French immersion programs are available and thus must be dropped from the project.

In this report we shall summarize the progress of all the children screened in Kindergarten, tested in January of their Kindergarten year, and again in January of their Grade 1 year. We will also briefly discuss the academic status of the children who were tested in January of their Grade 2 and Grade 3 years.

Assessment Battery

The children were individually tested in the middle of January of each school year. We tried to include in the battery tests that would lend themselves to annual re-administration to permit year to year evaluation of the child's progress. In certain cases not all tests were given every year, either because those given in Kindergarten were not appropriate for upper grade levels (e.g. WPPSI) or those given at upper grade levels were too difficult for younger children (e.g. Spache).

The following tests were given in Kindergarten:

1) A full scale Wechsler Preschool and Primary Scale of Intelligence (WPPSI). Any child whose performance on this test indicated that he

might be of below average intelligence or mildly retarded was not included in the sample. On one of the three scales the child had to have a score of 80 or higher.

2) Seven subtests of the Illinois Test of Psycholinguistic Abilities (ITPA)

- Auditory Reception
- Visual Reception
- Visual Sequential Memory
- Auditory Association
- Auditory Sequential Memory
- Visual Association
- Grammatical Closure

3) Form A of the Peabody Picture Vocabulary Test (PPVT)

4) the Northwestern Syntax Screening Test (NSST)

In Grade 1, the battery was similar to that given in Kindergarten with the following changes:

1) The WPPSI was not administered.

2) Two subtests of the Wechsler Intelligence Scale for Children (WISC) were added - Vocabulary and Similarities.

3) Two subtests of the ITPA were added - Auditory Closure and Sound Blending.

4) Form B of the Peabody was administered.

5) The Arithmetic subtest of the Metropolitan Achievement Test Level 1 Form A was administered in January of 1973 and 1974.

In Grade 2 the battery was similar to the one given in Grade 1 with the following changes:

1) The Wide Range Achievement Test (WRAT) was given.

2) The Spache Diagnostic Reading Scales Test was given in March.

3) The Metropolitan Achievement Arithmetic subtests were given (Level 2, Form A).

4) Form A of the Peabody was administered.

In Grade 3 the following tests were given:

1) Full Scale Wechsler Intelligence Scale for Children (WISC)

2) Nine subtests of the ITPA

3) Form B of the Peabody

4) WRAT

5) Spache (given in March)

6) Computation and problem solving subtests of the Metropolitan Achievement Test Form A, elementary battery.

Student Observation and Teacher Interview

Beginning in March 1973 the pupils were observed informally in their classrooms. Their teachers were interviewed to obtain their impressions of their pupils' progress. They were specifically asked about the pupils' achievement in reading, writing and arithmetic.

In the case of the immersion children, they were asked how much they thought these children understood as well as how much and how well they communicated in their second language. Lastly they were asked if there were any specific behavioral problems. These reports were anecdotal and no attempt was made to quantify this information. They will be inserted into the report to support or clarify the data when appropriate.

RESULTS

Progress from Kindergarten to Grade 1

When appropriate, 2x2x2 analyses of variance with repeated measures were run on each of the measures discussed above. The independent variables were Group (problem vs. control) language of instruction (French vs. English) and time of testing (Kindergarten vs. Grade 1). For those tests given only once (e.g. WPPSI and two subtests of the ITPA) 2x2 analyses of variance were run. The independent variables were group and language of instruction.

Table 6 shows the number of males and females in each of the four groups and their average age in months in January of their Kindergarten year.

Table 6
Sex and Age in Months

Group	Male	Female	Age
FP	5	4	69
FC	10	6	69
EP	5	4	68
EC	5	4	67

In terms of age the four groups are well matched.

Table 7 presents the full verbal and performance WPPSI scores for the children in Kindergarten. On the verbal scale the control children score significantly higher than the problem children.

Table 7
WPPSI Scores

Group	N	Full	Performance	Verbal
FP	9	102	109	95
FC	16	116	116	113
EP	9	92	97	88
EC	9	111	111	109

On the performance and full scale scores there is both a significant group effect (the controls perform better than the problems) and a significant language of instruction effect (the French immersion children perform better than their English controls). Hopefully when more children are added to the sample this language of

instruction effect will disappear. We hope that it does not indicate that the more disabled children are remaining in the English classrooms. It may be that many of the very disabled children in French immersion Kindergarten never make it to a French immersion Grade 1 as they go into an English readiness class (these children would not be retested in our study) as similar children in the English group going from an English Kindergarten to a readiness class would be retested. However, while we must keep these differences in mind, on other measures taken, there is no significant effect for language of instruction.

In summary these averages indicate that we are dealing with children of normal intelligence in the problem groups despite the fact that they have language learning difficulties. In terms of verbal IQ the two control and two problem groups are well-matched.

Because of the number of tests given in Kindergarten and in Grade 1, we grouped them under the following categories:

Vocabulary skills
Abstract-reasoning skills
Grammatical skills
Visual skills
Auditory skills
Mathematical skills

Vocabulary skills. Table 8 shows the mean scores of the four Kindergarten groups on the WPPSI Vocabulary subtest and the mean scores of the four Grade 1 groups on the WISC Vocabulary subtest.*

Table 8
Vocabulary subtests of WPPSI and WISC

Group	K (WPPSI)	I (WISC)
FP	9.44	8.00
FC	12.06	12.13
EP	8.44	8.67
EC	10.56	11.11

The control children performed significantly better than the problem children. There were no significant language of instruction, or time of testing effects.

Table 9 presents the group means for the Peabody Picture Vocabulary Test.

Table 9
Peabody Picture Vocabulary Test

Group	K	I
FP	99.11	92.11
FC	112.63	110.19
EP	93.44	86.00
EC	101.78	106.67

* The WPPSI Vocabulary subtest and the WISC Vocabulary subtest were considered equivalent measures and thus suitable for a test-retest analysis.

The control children performed significantly better than the problem children. There were no significant language of instruction or time of testing effects. However, there was a significant group x time of testing effect. The two problem groups performed more poorly in Grade 1 than in Kindergarten*, as the two control groups performed similarly in Kindergarten and Grade 1.

The Auditory Reception test was thought to be a test of vocabulary in that the child is required to answer "yes" or "no" to such questions as "do boys play?" Correct response thus involves knowledge of the semantic markers of "boy" and "play". The only significant effect was "Group" - the control children performed better than the problem children (Table 10).

Table 10

Group	K		I	
FP	34.00**	(5-2)***	34.44	(6-3)
FC	38.31	(6-0)	40.75	(7-6)
EP	30.89	(4-7)	31.00	(5-6)
EC	37.33	(5-8)	38.44	(7-0)

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* Because these are scaled scores, this probably does not mean that they had less vocabulary in Grade 1, but that they did not develop at the expected rate.

** All ITPA scores are expressed in standard score form

*** Norms in brackets are age levels.

The results of the vocabulary tests show that the FP children relative to their EP agemates are not suffering in terms of vocabulary development by their participation in French immersion programs.

Abstract reasoning skills. On both the Similarities* (Table 11) and Auditory-Reception (Table 12) tests, the control groups perform better than the problem groups. On the Auditory Association test, all groups performed significantly better in Grade 1 than in Kindergarten.

Table 11
Similarities subtests of WPPSI and WISC

Group	K (WPPSI)	I (WISC)
FP	9.78	10.78
FC	12.50	12.88
EP	8.56	8.78
EC	12.44	11.56

Table 12
Auditory Association - ITPA Subtest

Group	K	I
FP	25.78 (4-9)	29.89 (5-9)
FC	43.06 (7-0)	40.94 (7-11)
EP	26.89 (4-9)	30.44 (5-9)
EC	40.00 (6-2)	43.33 (7-11)

* The WPPSI Similarities subtest and the WISC Similarities subtest were considered equivalent measures, and thus suitable for a test-retest analysis

Grammatical abilities. In terms of understanding and producing certain grammatical patterns, the control children perform better than the problem children on the NSST Reception and NSST Production tests (Tables 13 and 14). However all children improve over the year on both tests.

Table 13
NSST Reception

Group	K	I
FP	26.56	29.33
FC	32.56	34.63
EP	25.78	30.11
EC	33.22	34.11

For the NSST Production test there is a significant language of instruction x time of testing interaction. It appears that the English groups increase their scores to a greater degree than the French groups from Kindergarten to Grade 1. However, as Table 14 shows at Grade 1 the FP do not differ from the EP; nor do the FC's differ from the EC's. These results do not suggest that the French groups are regressing but merely that in K they started off at a higher level than their English peers and probably did not gain as much due to ceiling effects.

Table 14
NSST Production

Group	K	I
FP	24.44	27.33
FC	31.63	34.13
EP	20.49	27.11
EC	30.33	35.67

On the Grammatical Closure subtest of the ITPA (a test of regular and irregular inflections) while the control groups perform better than the problem groups, there is a significant language of instruction x time of testing interaction. The FP and FC groups perform less well in Grade 1 than in Kindergarten, while the EP and EC groups perform better in Grade 1 than in Kindergarten. It should be noted that these scores are standardized. Thus the French children are not getting worse, but are not developing at the same rate as their English agemates.

Table 15
Grammatical Closure - ITPA Subtest

Group	K	I
FP	33.11 (5-6)	30.22 (5-8)
FC	44.89 (7-0)	41.75 (7-7)
EP	27.11 (5-2)	30.11 (5-8)
EC	47.33 (7-3)	47.33 (8-6)

By Grade 1 most of the errors made are on those items which test mastery of irregular inflections. Thus while the children know how

to form plurals, make comparisons etc. they are less familiar with forms such as the past tense of "go". What might explain the poorer performance of French groups on this test?

While a child may have acquired many grammatical forms before starting school, he may still lack knowledge of many of the inflections - especially irregular ones - that are common in his language. It is possible that he must wait for formal educational training to master these forms. In school the child may receive immediate feedback and correction of faulty grammatical patterns from his teachers who may be less tolerant of deviation than parents who according to Brown and his associates (1973) do not correct and may not even notice children's grammatical errors. Therefore the child who says he "goed" would be corrected by the teacher although perhaps not by his parent. In school he also has additional exposure to these forms through reading and writing his native language.

If the above premise is correct, then the children in immersion classes would lag in terms of their knowledge of these irregular endings,as they do not have early exposure and practice with them in school.

However, although these results are interesting, we do not feel that they warrant the conclusion that immersion programs are

detrimental to the language development of the normal and language disabled child. Firstly these children are certainly benefiting from participation in French immersion programs in terms of second language acquisition (to be discussed later). Secondly it should be noted that these findings replicate those from a study by Bruck and Tucker (in preparation) in which they found an actual increase in the number of morphological errors in the free speech of "normal" children from the beginning until the end of their Kindergarten immersion year. The opposite was true for children in English Kindergarten classes. However, they found no other sign of retarded language development in these children, using many other measures of language development.

Visual skills. On the Visual Sequential Memory test, (Table 16) the French immersion children perform significantly better than their English controls.

Table 16
Visual Sequential Memory - ITPA Subtest

Group	K	I
FP	39.11 (6-6)	39.56 (7-3)
FC	40.69 (7-3)	40.31 (7-10)
EP	35.78 (5-7)	35.89 (6-10)
EC	40.89 (6-6)	37.00 (6-6)

On the Visual Reception test, (Table 17) there were no significant main effects.

Table 17
Visual Reception - ITPA Subtest

Group	K	I
FP	36.67 (5-7)	38.56 (7-4)
FC	40.69 (6-2)	40.31 (8-4)
EP	37.78 (5-5)	35.89 (6-7)
EC	40.89 (6-5)	37.00 (6-10)

Finally on the Visual Association test, (Table 18) the controls perform better than the problems. There is a significant group x time of testing interaction which shows that the control children perform better in Grade 1 than in Kindergarten while the problem children perform the same. On all three of these tests the children perform well above the norms for their age. Thus it does not seem as though their visual processing skills have been harmed by participation in a French immersion program.

Table 18
Visual Association - ITPA Subtest

Group	K	I
FP	35.22 (5-9)	37.89 (6-10)
FC	39.94 (6-6)	44.75 (8-11)
EP	36.67 (5-9)	32.22 (6-0)
EC	36.33 (5-9)	40.89 (7-7)

Auditory skills. On the Auditory Sequential Memory test, (Table 19) the control children performed better than the problem children.

Table 19
Auditory Sequential Memory - ITPA Subtest

Group	K	I
FP	30.00 (4-2)	30.22 (5-0)
FC	39.50 (6-10)	39.50 (7-11)
EP	31.00 (4-5)	32.00 (5-6)
EC	42.33 (7-7)	43.56 (9-2)

On the Auditory Closure (Table 20) and Sound Blending (Table 21) tests (not given in Kindergarten), the problem children perform more poorly than their controls. On the Sound Blending test the English children perform better than the French immersion children. This result is not surprising as the skills required for this test are related to English reading skills w hich the French groups have not yet practiced.

Table 20
Auditory Closure - ITPA Subtest

Group	K	I
FP	Not Given	24 (4-8)
FC	"	35 (6-5)
EP	"	26 (4-11)
EC	"	34 (6-1)

Table 21
Sound Blending - ITPA Subtest

Group	K	I	
FP	Not Given	38	(6-2)
FC	"	41	(7-4)
EP	"	36	(6-5)
EC	"	53	(8-7)

The results of the auditory skills tests are encouraging for we expected this to be one of the areas in which the FP might perform much more poorly than the EP children. For any test, this was not the case.

Mathematical skills. Table 22 presents the mean scores of the Metropolitan Arithmetic subtest expressed in grade levels. No statistical analysis was performed, as the number of subjects was too small.

Table 22
Metropolitan Arithmetic Scores

Group	Grade 1	No. of subjects
FP	1.7	6
FC	2.0	10
EP	1.3	7
EC	2.2	3

These scores indicate that the French immersion children who are

taught math in French perform well on this test.

Teachers' Reports and Observations of the Children in March 1973 and 1974 of Grade 1.

Of the 24 children seen in Grade 1, the following observations were made. Two of the six FP children were reported by their teachers as having a great deal of difficulty in acquiring basic skills. The four others were considered to be progressing satisfactorily. All the 7 EP children were reported as having difficulties. Three of these children were in a readiness class (a special class for children not ready for Grade 1).

The progress of three FP children present instructive comparisons. One child was so nonverbal that he would not ask to be excused and would soil his pants. However, the teacher did not push him to speak and encouraged him in whatever activities he found interesting. By March of Grade 1 he could read in French as well as many of his classmates and did well in mathematics. The second child was quite verbal; however, the quality of her productive French was extremely poor. Her teacher reported that she could not read, could not write and was just a poor student. This teacher made no attempt to help the child, openly chastized her in class for being stupid, sat her in the back row etc. She refused to give this child any individual help because she did not feel she should be in an

immersion class to begin with. The third FP child was repeating Grade 1. His present teacher (who has him for the second year) is very pleased with his progress. She feels that he is a late starter and needs a little more time than most children to learn. As of March he was able to read in French at his grade level and his performance in math was satisfactory. His teacher thinks that although he will never be an excellent student, that with extra help and encouragement he will cope very well in the immersion class.

The contrast between these three children and their teachers' attitudes is interesting because it demonstrates why some of the problem children may succeed and others may fail in immersion classes. One teacher could not tolerate individual differences and knew that if she complained enough, the problem children would be moved from the French immersion to an English classroom.* The other two teachers, through understanding and individualizing of instruction made it possible for their students to function in an immersion classroom.

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* In the case of the above mentioned child, the teacher was not having such an easy time since the parents were very much opposed to the switch.

In summary for all tests given there is a significant group effect. That is, the control children perform better than the problem children. This is what was expected. However, it should be noted that there are no significant interaction effects to indicate that the FP children were performing differently from the EP children. We feel that the problem children in French immersion classrooms are not encountering any more problems than they would were they placed in an English classroom. The children are having problems but so are those in the English classes.

Academic Status of the Children in Grade 2

The pupils' academic achievements in terms of their performance on the Spache, WRAT and Metropolitan Arithmetic subtests will be discussed. These scores, expressed in grade levels are presented in Table 23. Because of the small number of children in each group, no statistical analyses were performed on the data. Again, teachers' reports of the children's progress will be inserted when appropriate.

Table 23
Grade 2 Achievement Scores

Measure	FP	FC	EP	EC
No. of subjects	6	10	3	6
Spache (March)	2.5	3.5	3.0	3.6
WRAT Reading	2.3	3.7	2.7	2.6
WRAT Spelling	2.0	3.3	3.1	3.4
WRAT Math	2.5	2.6	2.2	2.5
Metropolitan Math	2.7	3.1	2.3	2.9

Children in immersion classes were introduced to reading in English at the beginning of Grade 2. They were not given formal spelling instruction as it was thought that they might be too confused by having to learn two orthographic systems simultaneously.

The reading scores indicate that after 2/3 of a year of reading instruction in English the FP children are coping remarkably well. They are reading at or just below grade level. Five of the six FP children had learned to read in English. Two EP children read one year above grade level. Their teachers reported that they are average students with no particular difficulties. The third EP child - a very poor reader was receiving remedial help. One of the EC children was in a remedial class and read at a low Grade 1 level. The performance of the FC children varied greatly on this test. For example, one child read at a Grade 8.5 level, while another child had not learned to read at all in English and was reading at a Grade 1 level in French. It was learned after the testing that he had been switched from the immersion to an all English class.

In January 1974, four children of the sixteen in the two French groups were receiving remedial reading help in English. We deplore this situation for a number of reasons. First these children are having difficulty in reading and since they are in French immersion classrooms and French was the original language used for reading,

remedial help should be forthcoming in that language. The second reason has to do with the fact that English is introduced so early in these children's curriculum. To hold off in the introduction of English reading can only benefit children who are slow to grasp the essentials of the reading process in one language. To introduce them to a second language even though it is their native one, can only add confusion and uncertainty to the new skills they are trying to acquire. We believe that once one has a firm grounding in reading principles, one can read in any language. While it is evident that some of the problem children in our study were not hopelessly lost, perhaps they would have found it easier to have continued with only one system for an extra year. This would have strengthened their skills and made it easier to transfer these skills to reading in English.

All math instruction for immersion pupils in Grades 1 and 2 was given in French. The two math tests given were administered in English.

On both of these measures the French immersion children perform better than their English controls. The FP children appear to be performing at grade level and according to their teachers' reports are experiencing no particular difficulty in learning basic math skills.

Unfortunately apart from speaking to the children, listening to them read and reports from the teacher, we have no empirical evidence concerning their grasp of the French language. There are no appropriate tests available to measure Anglophone children's knowledge of French in immersion classes. There are tests for French Canadian and European French children, but these norms are not applicable to our sample of children. Home-made tests are of little use because of the small number of children in our sample.

The teachers' reports of the six problem children in Grade 2 are most encouraging. The teachers feel that the children understand what is going on and that they are able to communicate satisfactorily in French. Their accents are also very good. When presented with an unfamiliar text to read in French, they could all read the passage and answer a few basic questions about its content.

Academic Status of the Children in Grade 3

Table 24 presents the achievement test scores (expressed in grade levels) of the children tested from Kindergarten to Grade 3. Because of the small number of children in each group, no statistical analyses were performed on the data.

As can be seen from the reading scores the 3 FP children are reading above grade level. (This was not the case in Grade 2).

While they are not reading at as high a level as the other 3 groups, their progress is commendable. Again on the math tests the two French groups perform better than their English peers.

From the results of this study, from talking to these children's teachers and from talking to several parents of immersion children, we think that in terms of schoolwork, the French immersion child encounters a difficult period from the end of Grade 1 through some of Grade 2. Then school work becomes easier. If this hypothesis is correct, then children, especially those with problems, should be given as much encouragement as possible during this difficult period. Educators must not be so hasty to switch children to the English stream if after a period of difficulty, skills will be acquired.

Table 24

Measure	FP	FC	EP	EC
No. of subjects	3	4	2	6
Spache	3.9	5.7	4.2	5.2*
WRAT Reading	3.7	6.6	4.9	4.7
WRAT Spelling	3.0	5.6	3.9	3.7
WRAT Math	3.5	3.8	2.8	3.3
Metropolitan computation	3.5	3.9	3.2	3.4
Metropolitan problems	3.4	4.2	2.9	3.6

* N = 5. One child left the school just before this test was given.

In summary what can we conclude from the results of tests from this small sample of children? First, the children in French immersion with language problems appear able to learn a second language in that their teachers report that they communicate in French. We feel it is quite commendable that these children have reached this level of proficiency in their second language. We have seen many children with learning problems struggle through the traditional FLES programs at the end of which they have acquired little French and have experienced displeasure with the language. The French immersion classroom appears to be a relatively painless method to acquire French. Second, is the necessity for remedial services in French. Many children are unfairly removed from the French stream because services are available in English only. This is an unfortunate situation. Third, we presented the notion that the French immersion children experience a difficult period in their education which, if weathered, will end in a time when academic life is smoother.

More importantly, these results demonstrate the feasibility of leaving children in French immersion programs, even though it is felt that at the Kindergarten level their native language is poorly developed. Were they removed to an English classroom they would likely encounter similar problems as seen in the French immersion class. Specifically, were a decision made at that time to

remove all children with slow language development from immersion classes, the 9 children that we have followed through to Grade 1, would have been deprived of the opportunity to acquire the French language - knowledge of which is crucial, for future survival in Quebec.

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APPENDIX I

DIAGNOSTIC SCREENING TEST

OBJECT MANIPULATION

Put the box under the table.

Put the man in front of the boy.

Put the car behind the truck.

Put the ball in the cup.

Make the car push the truck.

(show accident with car and truck)

Show me the one that was hit.

Show me the boy's daddy.

Before you give me the people, put the cars in the box.

Give me three people.

Give me two pieces of furniture.

SLINGERLAND STORY

A little boy found a new wagon under the Christmas tree.
It was red and white.
He took it outside where he could play with it.
His friends came to play with him.
He gave his friends a ride.
Now I will put my wagon back where I found it.
So he put it _____

CHILD'S SEQUENCE

_____
_____
_____
_____
_____
_____
_____
_____
_____

SENTENCES

MY HOUSE

I LIKE DOGS

APPENDIX I - continued

JOHN HAS A HAT

THE BOY FLIES A KITE

MARY AND PETE CLIMBED THE TREE

THE CHILDREN LIKE TO PLAY WITH TOYS WORD SPAN (2-7)

THEY HAVE SOME NICE TOYS

THE GIRL TOOK MARK'S BICYCLE

MUMMY IS NOT HOME YET

THE BEAR WAS BEING CHASED

DO YOU LIKE EATING LOLLIPOPS

THE CHILDREN ARE NOT GOING TO SCHOOL

WE PLAY WITH THE BIG RED BLOCKS

THE MAN WAS HIT BY THE CAR

THE BOY IS PULLING THE GIRL'S HAIR

ARE YOU GOING TO READ A STORY?

SLINGERLAND ECHOLALIA

WORDS:

animals	elephant	basket
magazine	metal	vegetable
mother	refrugerate	hospital
enemy	spaghetti	grandfather
visited	aluminum	log cabin
temperature	dominoes	caterpillar

PHRASES:

river roads	sheets and pillow cases
hungry and thirsty	trick or treat games
family and friends	eating spaghetti and vegetables.